

Work Order ID 60144

Page 1

Monday, June 28, 2010 9:03:02 AM

Item ID: D206-667-103TRN

Accept



Setup

Start



Revision ID:

Item Name: Crosstube Turning DetailL

Stop



Start Date: 6/28/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/9/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date: 10-6-28

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D206-667-143	Rev C

100



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA087
 2-Turn first side as per Folio FA087
 3-File down transition lines smooth.

110



QC1- Inspect dimensions to dimension sheet

0.00

QC

Memo

0.00

Quality Control

120



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA087
 2-File down transition lines smooth.

 3-Remove sand and plugs

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Tooling: _____

Date: _____

Run

Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop


**Sequence ID/
Work Center ID**
**Operation
Description**
**Set Up/
Run Hours**

Tool ID

Tool

**Plan
Code**
**Accept
Qty**
**Reject
Qty**
**Reject
Number**
**Insp.
Stamp**

130



QC1- Inspect dimensions to dimension sheet

0.00

Q.M 10-06-29 Q

QC

Quality Control

140



QC8- Inspect parts - second check

0.00

10-06-29

QC

Quality Control

150



Crosstubes Chemical Conversion

0.00

A.W.M 10-06-29

HandFXtube

Hand Finishing Crosstubes

Memo

0.00

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Cust Item ID:

Required Date: 7/9/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC3- Inspect Part Finish

0.00

QC

Memo

0.00

MB 10-06-29

170



Packaging

0.00

Packaging

Memo

0.00

Identify and stock in kanban rack Location: X-TUBE CELL

10-06-29

180



QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

MF 10-06-29

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Picklist Print

Monday, June 28, 2010 9:03:06 AM

Page 1

Work Order ID: 60144



Parent Item: D206-667-103TRN



Parent Item Name: Crosstube Turning DetailL

Start Date: 6/28/2010

Required Date: 7/9/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 removed polish EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6002-115		Manufactured	No			110	Each	58.0000	1	1			

Crosstube Material



Location	Loc Qty	Loc Code
LG	58	
34684	1	
34776	57	/

A.M 10-06-090

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DART AEROSPACE LTD	Work Order:	80144
Description: Crosstube Assembly (206L High Fwd)	Part Number:	D206-667-143
Inspection Dwg: D206-667-143 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245	/		
	1.982	+0.005/-0.000	1.982	/		
	2.019	+0.005/-0.000	2.024	/		
	2.058	+0.005/-0.000	2.062	/		
	2.097	+0.005/-0.000	2.103	/		
	2.136	+0.005/-0.000	2.141	/		
	2.176	+0.005/-0.000	2.181	/		
	2.201	+0.005/-0.000	2.206	/		
	0.125	+/-0.010	0.125	/		
	0.400 x 30°	+/-0.010	0.400 x 30°	/		
	R0.063	+/-0.010	R0.063	/		
	R0.500	+/-0.010	R0.500	/		
	4.438	+/-0.030	4.438	/		
SIDE B	104.98	+/-0.020	104.980	/		
	2.240	+0.005/-0.000	2.245	/		
	1.982	+0.005/-0.000	1.982	/		
	2.019	+0.005/-0.000	2.024	/		
	2.058	+0.005/-0.000	2.063	/		
	2.097	+0.005/-0.000	2.103	/		
	2.136	+0.005/-0.000	2.141	/		
	2.176	+0.005/-0.000	2.181	/		
	2.201	+0.005/-0.000	2.206	/		
	0.125	+/-0.010	0.125	/		
	0.400 x 30°	+/-0.010	0.400 x 30°	/		
	R0.063	+/-0.010	R0.063	/		
	R0.500	+/-0.010	R0.500	/		
	4.438	+/-0.030	4.438	/		

Measured by:	CML	Audited by:	AWW	Prototype Approval:	N/A
Date:	10.06.29	Date:	10-06-29	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.05.06	New Issue (P/O D206-667-103)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	JLM

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8 7 6 5 4 3 2 1

Item	Qty	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 104.98±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 15.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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WITHOUT NOTICE
WORK ORDER
NO. *CO144*
3810-6-28

RELEASED
08/11/06

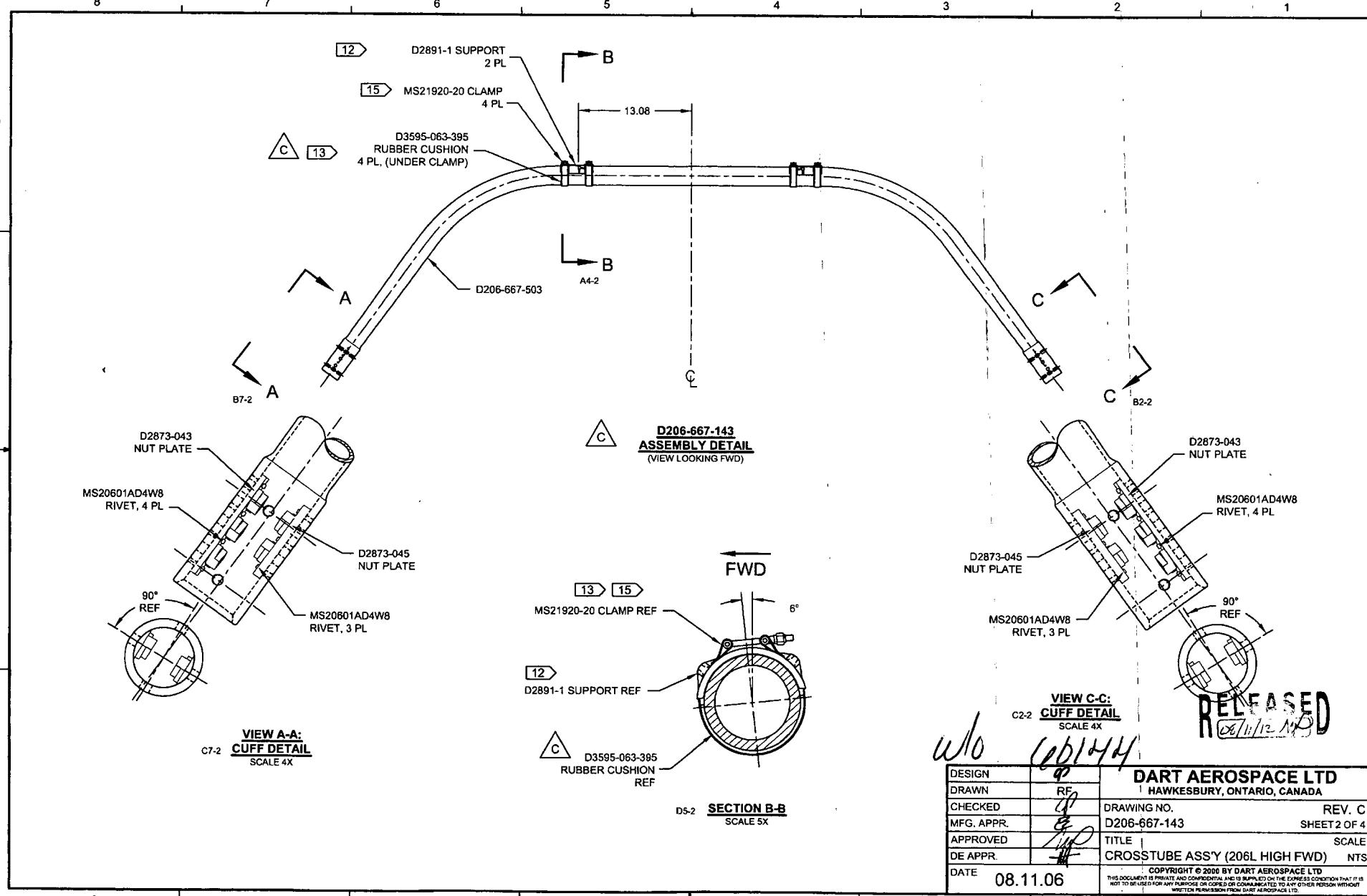
C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, CS-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BH7/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	08.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>q</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>RF</i>		
CHECKED	<i>q</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>q</i>	D206-667-143	SHEET 1 OF 4
APPROVED	<i>q</i>	TITLE	SCALE
DE APPR.	<i>q</i>	CROSSTUBE ASSY (206L HIGH FWD) - NTS	
DATE	08.11.06	1. COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PROVIDED. IT IS NOT TO BE COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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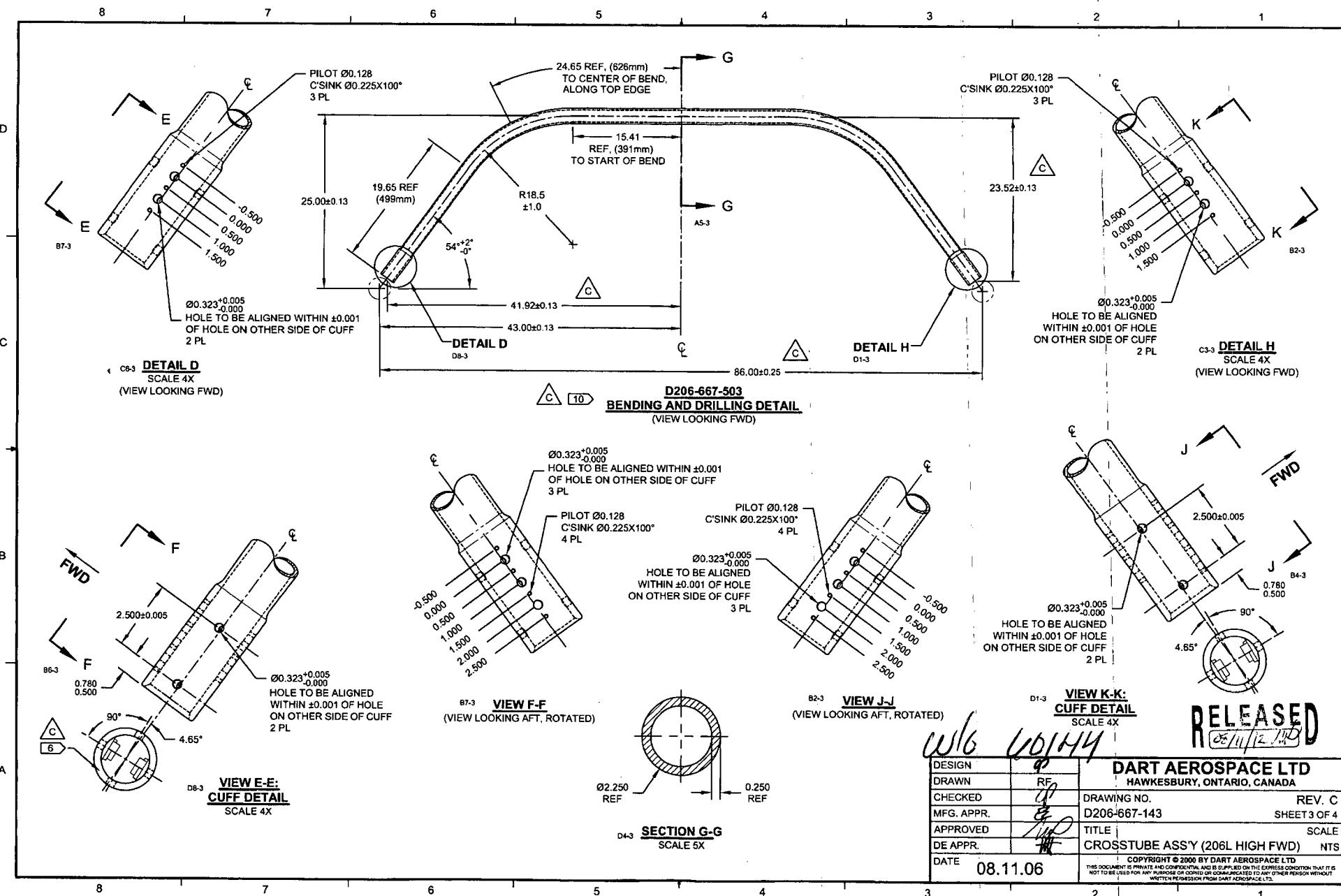


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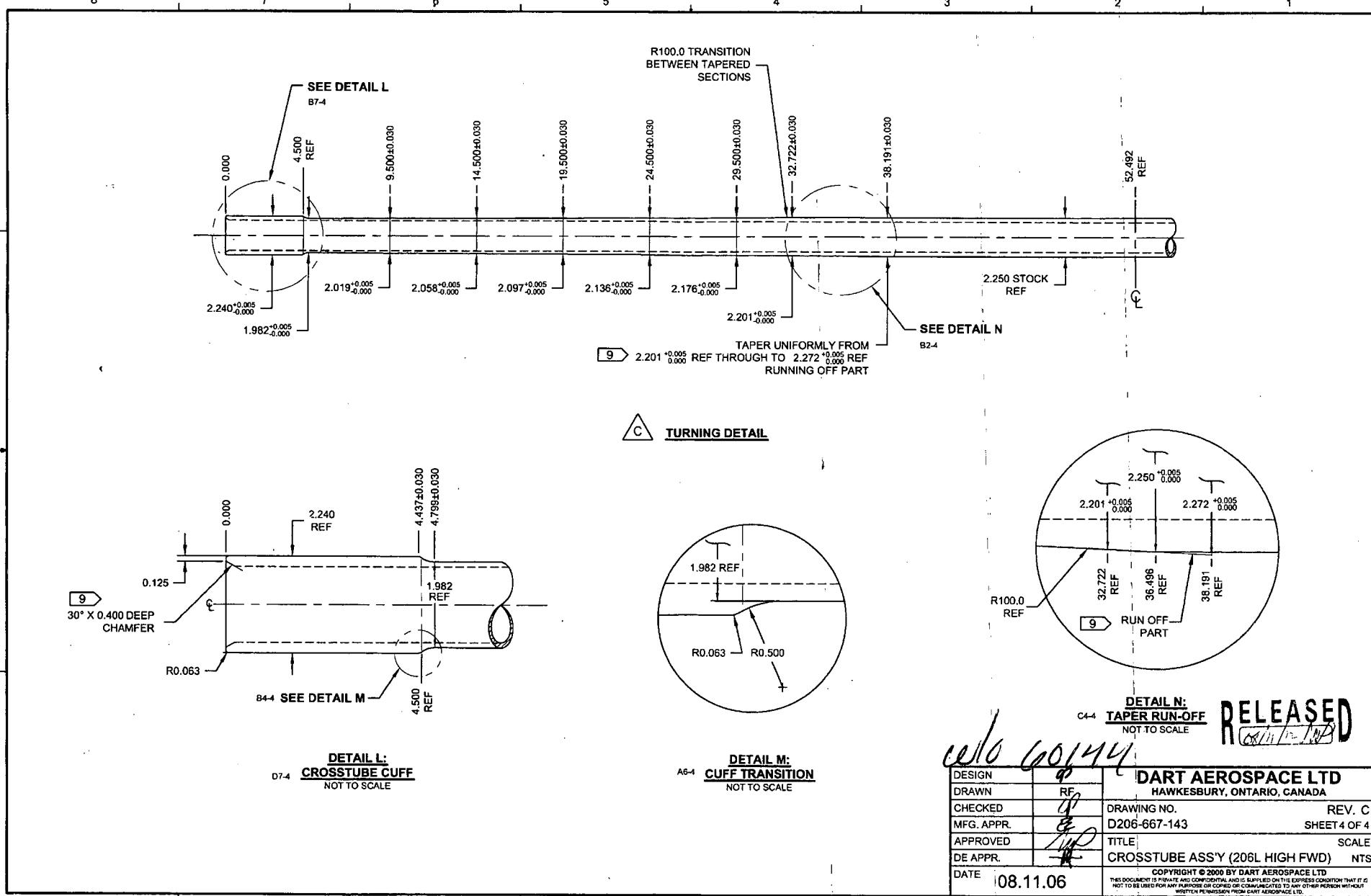


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DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D206-667-143
CHECKED	RF	REV. C
MFG. APPR.	RF	SHEET 4 OF 4
APPROVED	RF	TITLE CROSSTUBE ASS'Y (206L HIGH FWD) NTS
DE APPR.	RF	DATE 08.11.06
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